

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant:	Sendyne Corporation	Examiner:	Martin, Angela J.
Serial No.:	10/528,513	Group Art Unit:	1795
Filing Date:	January 15, 2004	Confirmation No.:	4366
Title:	Fuel Supply Method for Direct Methanol Fuel Cell	Attorney Docket No.	SNDN.P-002-USNP

REPLY BRIEF FOR APPELLANT

In response to the Examiner's Answer mailed on June 11, 2009 for the above-captioned application (hereinafter, the Examiner's Answer), the present Reply Brief is respectfully submitted in accordance with MPEP § 1208(I) and 37 CFR § 41.41.

Status of Claims

The Examiner's Answer admits that the Appeal Brief correctly sets forth the status of the claims.

Grounds of Rejection to Be Reviewed on Appeal

The Examiner's Answer admits that the Appeal Brief correctly states the issues on appeal.

Argument

In general, the Examiner has not identified which portions of the Examiner's Answer apply to which issues on appeal. Consequently, it has been difficult for the Appellant to guess which portions of the Examiner's Answer are meant to address which issues on appeal. In the Examiner's Answer, the Examiner has merely copied the last Office Action rejections, plus appended some new matter on pages 9-10. The Appellant will address the Examiner's new matter as best possible within the discussion of the Issues below.

Issue 1 — Indefiniteness Rejection of Claim 6 Under 35 U.S.C. § 112

In the Examiner's Answer, page 9, the Examiner admits that the phrase "at a later time", as used in the previously presented claim 6, means that that a cartridge is not to be brought into communicative coupling with the container until after oxygen is brought into contact with the cathode. Yet, the Examiner further asserts that the phrase "'at a later time' is a broad statement which can mean any range of time, as long as it is not performed prior to or performed simultaneously." Hence, the Examiner asserts that claim 6 is supposedly indefinite because it does not set an upper limit on the time period following the bringing of oxygen in contact with the cathode for actually bringing the cartridge containing a relatively higher concentration of methanol into communicative coupling with the container. The Examiner fails to provide a rational basis on why there needs to be an upper limit on this time period, especially given the fact that the cartridge would be engaged by a user or by an automated system at a time based on the load profile and the power-conversion process within the fuel cell. Moreover, the Examiner seems to be simply complaining about the breadth of the claim because of the lack of an upper ceiling on the time period in question. Mere breadth of a claim should not be equated with indefiniteness. See MPEP § 2173.04.

In short, there is simply no specific minimum or maximum length of time required to wait before bringing the cartridge into communicative coupling with the container, so long as the communicative coupling occurs after the bringing of oxygen in contact with the cathode. As it currently stands, claim 6 very adequately informs one ordinarily skilled in the art on how to practice the claimed invention within a reasonable degree of particularity and distinctness, and therefore should be allowed. See MPEP § 2173.02.

Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 112,

second paragraph, rejection of claim 6 be reversed.

Issue 2 — Indefiniteness Rejection of Claims 13 and 14 Under 35 U.S.C. § 112

The Examiner's Answer fails to specifically address Issue 2, relating to claims 13 and 14, which is whether the use of the phrase "at a later time" as an introductory clause on each claim's final step (relating to the stirring of the methanol solution) somehow renders claims 13 and 14 as indefinite under 35 U.S.C. § 112, second paragraph.

In the Appellant's Appeal Brief, the Appellant stated that each of claims 13 and 14 unambiguously indicates that stirring the solution is not to occur until after oxygen is brought into contact with the cathode. Hence, if a person stirs the solution *before, or at the same time when*, oxygen is brought into contact with the cathode, then there would be *no* infringement. Conversely, if a person stirs the solution *after* oxygen is brought into contact with the cathode, then there would be infringement. The specification and drawings provide further support with multiple examples of a fuel cell in operation (meaning, among other things, that oxygen has been brought into contact with the cathode) with the subsequent stirring of the solution. See paragraphs 27-29, 31, 34-38, and 43 of the specification, and Figure 2. These arguments have been presented to the Examiner on multiple occasions; however, the Examiner has not responded to the Appellant's arguments in any way other than to repeat the Examiner's same rejections.

Because the Examiner's Answer fails to respond to the Appellant's argument, or even address Issue 2, it appears that the Examiner has conceded this issue in favor of the Appellant. Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 112, second paragraph, rejection of claims 13 and 14 be reversed.

Issue 3 — Anticipation Rejection of Claims 1 and 16 Under 35 U.S.C. § 102(e)

The Examiner's Answer appears to attempt to address Issue 3 somewhat on page 9 of the Examiner's Answer, in the second paragraph. The Examiner argues that the term "adjacent" in the second claim element, "an anode adjacent the fuel container", which appears in both claims 1 and 16, "is a relative term which can be defined as 'nearby' or 'neighboring'". Thus, the Examiner argues, the fuel container disclosed in U.S. Patent 6,981,877 B2 to Ren *et al.* (Ren), is supposedly adjacent to the anode despite the fact that Ren explicitly discloses the anode in a separate chamber, which is connected via a fuel line to a separate fuel container (see Ren at Col. 5, lines 49-67; Figure 1A). Notably, the Examiner fails to cite an authority or dictionary for the

Examiner's proffered definition of "adjacent".

As previously argued in the Appellant's Appeal Brief, there is nothing in Ren that discloses what is essentially an integrated fuel-container-anode assembly in the presently claimed invention. In fact, Figure 1A of Ren is a mere block-diagram schematic of depicting a fuel line eventually connecting to the anode chamber (18). Nothing in the diagram cited by the Examiner discloses the anode face (8) of Ren being adjacent, or even necessarily nearby (because of the fuel line of unspecified length between the chambers), the fuel container (4) of Ren. The Appellant respectfully asserts that the Examiner is in error when interpreting Ren, and that all of the limitations of claim 1 and 16 are not taught in Ren.

Returning to the Examiner's attempt to define the term "adjacent" in the claims, the words of a claim must be given their "plain meaning" unless such meaning is inconsistent with the Specification. See MPEP § 2111.01(I) (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (discussed below); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004) (Ordinary, simple English words whose meaning is clear and unquestionable, *absent any indication that their use in a particular context changes their meaning*, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400°F to 850°F" required heating the dough, rather than the air inside an oven, to the specified temperature.) [Emphasis added.]

The context of the use of the word "adjacent" thus is of paramount importance when determining whether the Examiner is fairly and reasonably extending the definition of "adjacent" to help the Examiner justify the maintenance of a claim rejection. In each of claims 1 and 16, the word "adjacent" appears *four times* within the various elements.

Claim 1, with the word "**adjacent**" emphasized, is:

Direct methanol fuel cell apparatus comprising:

a fuel container;

an anode **adjacent** the fuel container;

a proton exchange membrane **adjacent** the anode;

a cathode **adjacent** the proton exchange membrane;

an oxygen supply *adjacent* the cathode;
the fuel container containing methanol in water at a first concentration;
a cartridge selectively communicatively coupled with the fuel container;
the cartridge containing fluid comprising methanol in water at a second concentration, the second concentration higher than the first concentration.

Claim 16, with the word “*adjacent*” emphasized, is:

Direct methanol fuel cell apparatus comprising:

a fuel container;
an anode *adjacent* the fuel container;
a proton exchange membrane *adjacent* the anode;
a cathode *adjacent* the proton exchange membrane;
an oxygen supply *adjacent* the cathode;
the fuel container containing methanol in water at a first concentration;
a cartridge selectively communicatively coupled with the fuel container;
the fuel container having a greater volume than that of the cartridge;
the cartridge containing fluid comprising methanol in water at a second concentration, the second concentration higher than the first concentration.

The Merriam-Webster online dictionary offers the following definitions for the word “adjacent” (see Exhibit A, which is also available at <http://www.merriam-webster.com/dictionary/adjacent>):

- 1 a: not distant : NEARBY <the city and *adjacent* suburbs> b: having a common endpoint or border <*adjacent* lots> <*adjacent* sides of a triangle> c: immediately preceding or following
- 2 *of two angles* : having the vertex and one side in common

The most plausible and reasonable definition for the word “adjacent” in the Appellant’s present patent application, is where “adjacent” means “having a common endpoint or border”, or at least “immediately preceding or following.” Further supporting the Appellant’s position is the

fact that the Specification and Figures 3-5 clearly show and describe an invention that intends and discloses that “adjacent” means that a component is immediately in communicative coupling with the next component of the system; otherwise, the system of the presently claimed invention would not be operable. Moreover, each of the four uses of the word “adjacent” pertain to: (1) an anode adjacent to the fuel container, (2) a proton exchange membrane adjacent the anode, (3) a cathode adjacent the proton exchange membrane, and (4) an oxygen supply adjacent the cathode. It should be noted that if the proton exchange membrane were not immediately in communicative coupling with both the anode and the cathode, on each side respectively, then the entire fuel cell would necessarily be inoperative. It would not be “good enough” for the membrane to merely be “nearby” the anode and/or the cathode. Similarly, the oxygen supply must be in immediate contact with the cathode; otherwise the fuel cell would be inoperable.

The context for defining the word “adjacent” must be derived from the specification, the drawings (Figures 3-5), and the claims themselves. Within the claims themselves, a common definition of the word “adjacent” is necessary to apply to each of the four uses of the word “adjacent” within each claim. Therefore, the most reasonable definition to apply to the word “adjacent” is “having a common endpoint or border”, or at least “immediately preceding or following.” The definition of the word “adjacent” in the manner proffered by the Examiner is inconsistent with the specification and drawings for the above-captioned patent application.

Accordingly, the Appellant respectfully requests that the Examiner’s 35 U.S.C. § 102(e) rejection of claims 1 and 16 be reversed.

Further, dependent claim 4, which has been rejected by the Examiner under 35 U.S.C. § 103(a) over Ren in view of U.S. Patent Application Publication No.2004/0072049 to Becarra *et al.* In the Appeal Brief, the Appellant asserts that based on arguments presented above, claim 1 is allowable; therefore, claim 4 should also be allowable. The Examiner’s Answer is silent on this proposition; therefore, it appears that the Examiner has conceded this point. Accordingly, the Appellant respectfully requests that the Examiner’s 35 U.S.C. § 103(a) rejection of claim 4 be reversed.

Issue 4 — Anticipation Rejection of Claims 5 and 19 Under 35 U.S.C. § 102(e)

The Examiner’s Answer appears to attempt to address Issue 4 somewhat on page 9 of the Examiner’s Answer, in the second paragraph. As discussed for Issue 3, *supra*, the Examiner

argues that the term “adjacent” in the second claim element, “an anode adjacent the fuel container”, which appears in independent claim 1, upon which both claims 5 and 19 depend. The Appellant respectfully asserts the same arguments as for Issue 3, *supra*, for each of dependent claims 5 and 19.

Accordingly, the Appellant respectfully requests that the Examiner’s 35 U.S.C. § 102(e) rejections of claims 5 and 19 be reversed.

Issue 5 — Anticipation Rejection of Claims 6 and 10 Under 35 U.S.C. § 102(e)

The Examiner’s Answer appears to attempt to address Issue 5 somewhat on page 9 of the Examiner’s Answer, in the third paragraph. The Examiner now argues that Ren teaches “a container and a cartridge”, and, the Examiner further asserts, since the container encompasses the cartridge, then the container would necessarily have a greater volume than the cartridge. However, the Examiner fails to point out or perhaps understand that Ren uses the term “cartridge” much differently than in the present above-captioned patent application. This point was made in the Appellant’s Appeal Brief; however, the Examiner’s Answer is silent in response to this point, which is a vital distinction.

The Examiner supposedly found the various elements of claim 6 strewn throughout the Ren specification: the first element (col. 9, lines 5-17), the second element (col. 5, lines 49-67), and the third element (col. 9, lines 63-67; col. 10, lines 1-5; and col. 9, lines 9-17). The undersigned has diligently studied these portions of Ren and is unable to find a disclosure of “the volume of the container being greater than the volume of the cartridge.” More importantly, it seems that the Examiner views the Ren “fuel container and delivery assembly” (700) as the equivalent of the container in claim 6, while also viewing the Ren dual-collapsible-chamber “cartridge” (702) (which is also referred to in Ren as an “exterior housing”) as the equivalent of claim 6’s cartridge. However, the Appellant respectfully points out that the Ren “cartridge” (702) is the *only* actual fuel container associated with the Ren fuel container and delivery assembly (700). Unlike in claim 6, the Ren fuel assembly does not disclose a separate fuel container at one concentration of methanol-water solution, while a separate cartridge containing a second, higher-methanol concentration of methanol-water solution. In the Ren fuel container and delivery assembly (700), only the two chambers of the Ren “cartridge” (702) contains solutions, and there is absolutely no indication that one chamber has a greater volume than the

other, nor that one chamber is contained within the other or that one chamber has its volume of solution supplemented with the volume of solution of the other chamber. The mere fact that Ren happens to use the term “cartridge”, in a separate context from the presently claimed invention, does not support a finding of anticipation by Ren. Because the Examiner did not respond to these points concerning the context and scope of Ren’s use of the term “cartridge”, these points appear to be conceded by the Examiner.

Moreover, the Appellant once again disputes that the Ren specification provides enough cooperation between the disparate and non-ordered passages cited by the Examiner to inform one ordinarily skilled in the art of the Appellant’s claim 6; that is, to bring all of the elements of claim 6 together. The Examiner’s answer is silent on this point from the Appeal Brief; therefore, this point appears to be conceded by the Examiner.

Therefore, because all of the limitations of claim 6 are *not* taught in Ren, as discussed *supra*, as well as in the Appeal Brief, the Appellant respectfully requests that the Examiner’s 35 U.S.C. § 102(e) rejection of claim 6 be reversed.

In addition, dependent claims 9 and 10 are each dependent on claim 6; therefore, if claim 6 is allowable for the reasons discussed above for claim 6, then each of claims 9 and 10 is necessarily allowable.

Accordingly, the Appellant respectfully requests that the Examiner’s 35 U.S.C. § 102(e) rejection of claim 10 be reversed and that the Examiner’s 35 U.S.C. § 103(a) rejection of claim 9 be reversed.

Issue 6 — Anticipation Rejection of Claims 11 and 12 Under 35 U.S.C. § 102(e)

The Examiner’s Answer fails to directly address Issue 6, relating to claims 11 and 12, which is the Examiner’s position that claims 11 and 12 are supposedly anticipated by U.S. Patent 6,737,181 B2 to Beckmann *et al.* (Beckmann), pursuant to 35 U.S.C. § 102(e).

In the Appellant’s Appeal Brief, the Appellant asserted that the Examiner is incorrectly of the view that the limitations of claim 11 is taught in Beckmann in col. 2, lines 26-32 and col. 3, lines 20-34. The undersigned has diligently studied this portion of Beckmann and is unable to find a disclosure of “an anode adjacent the fuel container”. Moreover, the Examiner failed to respond in any way to this very argument presented by the Appellant after each of the previous Office Actions dated June 25, 2007 and December 14, 2007, and continues to remain silent to the

Appellant's arguments on this point. Accordingly, the Examiner appears to have conceded this point, which by itself would justify a reversal of the Examiner's rejections of claims 11 and 12.

In addition, the Appellant previously noted that the undersigned has diligently studied this portion of Beckmann and is unable to find a disclosure of "a stirrer *within* the fuel container." Rather, it appears that Beckmann discloses a *separate* mixing chamber. Moreover, the Examiner failed to respond in any way to this very argument presented by the Appellant after each of the Office Actions dated June 25, 2007 and December 14, 2008. The most reasonable conclusion is that the Examiner was in error when alleging that all of the limitations of claim 11 are taught in Beckmann. However, in the Examiner's Answer, on page 9, fifth paragraph, the Examiner appears to attempt to address the stirrer issue by apparently implying that a "stirrer *within* the fuel container" [emphasis added] would be an inherent feature: "... however, providing a stirrer in a container, whether it is a fuel container or a mixing chamber, is well-known in the art." The Examiner fails to provide *any* support for the Examiner's assertion that providing a stirrer in a container, in the context of the presently claimed invention, is "well-known in the art".

Moreover, MPEP § 2144.03(A) states that "[I]t is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 ("[T]he Board cannot simply reach conclusions based on its own understanding or experience — or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings."). As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697. In the Examiner's Answer, the Examiner is effectively asserting as fact, *and without any support*, that it is supposedly well-known in the art to provide a stirrer within the fuel cell's fuel container. For the Appellant to adequately traverse this position, the Examiner must present the basis for the Examiner's assertion as to what one ordinarily skilled in the art would or would not understand with respect to stirrers within a fuel container for a direct methanol fuel cell. See MPEP § 2144.03(B).

Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 102(e) rejection of claim 11 be reversed.

In addition, the Examiner's Answer is silent on the Appellant's point within the Appeal Brief that the additional limitations of claim 12 are not taught in Beckmann in col. 4, lines 9-27, contrary to the Examiner's position. The undersigned has diligently studied this portion of Beckmann and is unable to find a disclosure of "electronics operating the stirrer at intervals as a function of measurements made regarding the fuel cell apparatus", or any equivalent thereof. Rather, it appears that Beckmann only discloses the possibility of using an electrically actuated flapper to prevent overflow in the event the fuel chamber is inclined from horizontal (see Beckmann at col. 4, lines 9-13), and Beckmann also merely discloses a gas-driven, self-regulating and self-driven pump (see Beckman at col. 4, lines 15-27). Because of the Examiner's silence on this point, it appears that the Examiner has conceded this point. For this reason alone, the Examiner's rejection of claim 12 is in error.

Furthermore, because claim 12 is dependent on independent claim 11 and necessarily incorporates all of the limitations of claim 11, which should be allowable for reasons stated *supra*, the Examiner's 35 U.S.C. § 102(e) rejection of claim 12 should be reversed.

Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 102(e) rejection of claim 12 be reversed.

Issue 7 — Anticipation Rejection of Claim 13 Under 35 U.S.C. § 102(e)

The Examiner's Answer fails to directly address Issue 7, relating to claim 13, which is the Examiner's position that claim 13 is supposedly anticipated by U.S. Patent 6,737,181 B2 to Beckmann *et al.* (Beckmann), pursuant to 35 U.S.C. § 102(e).

In the Appellant's Appeal Brief, the Appellant asserted that the Examiner is incorrectly of the view that the limitations of claim 13 is taught in Beckmann in col. 4, lines 9-27. The undersigned has diligently studied this portion of Beckmann and is unable to find a disclosure of the stirring occurring as a result of stirring by a stirrer contained *within* the container. Rather, it appears that Beckmann discloses a mixing process taking place in a mixing chamber or pump *external* to the fuel container. Moreover, the Examiner failed to respond in any way to this very argument presented by the Appellant after each of the previous Office Actions, dated June 25, 2007 and December 14, 2007. The most reasonable conclusion is that the Examiner was in error when alleging that all of the limitations of now-canceled claim 15, which are now incorporated in the current claim 13, are taught in Beckmann.

However, in the Examiner's Answer, on page 9, fifth paragraph, the Examiner appears to attempt to address the stirrer issue by apparently implying that a "stirrer *within* the fuel container" [emphasis added] would be an inherent feature: "... however, providing a stirrer in a container, whether it is a fuel container or a mixing chamber, is well-known in the art." The Examiner fails to provide any support for the Examiner's assertion that providing a stirrer in a container, in the context of the presently claimed invention, is "well-known in the art".

Moreover, MPEP § 2144.03(A) states that "[I]t is never appropriate to rely solely on 'common knowledge' in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 ('[T]he Board cannot simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.'). As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697. In the Examiner's Answer, the Examiner is effectively asserting as fact, *and without any support*, that it is supposedly well-known in the art to provide a stirrer within the fuel cell's fuel container. For the Appellant to adequately traverse this position, the Examiner must present the basis for the Examiner's assertion as to what one ordinarily skilled in the art would or would not understand with respect to stirrers within a fuel container for a direct methanol fuel cell. See MPEP § 2144.03(B).

Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 102(e) rejection of claim 13 be reversed.

Issue 8 — Previous Rejection of Claims 17 and 18 Under 35 U.S.C. § 102(e)

The Examiner's Answer fails to address Issue 8. As stated in the Appellant's Appeal Brief, in the previous Office Action dated December 14, 2007, page 3, the Examiner rejected claims 17 and 18 under 35 U.S.C. § 102(e) as supposedly anticipated by Ren. However, in the last Office Action, the Examiner failed to address these claims specifically, nor did the Examiner specifically address the Appellant's previously submitted arguments. Nevertheless, the Appellant wishes to avoid any ambiguity with regard to the disposition of these claim rejections. Therefore, because claims 17 and 18 are each dependent on claim 4, which in turn is dependent

on independent claim 1, then necessarily the allowability of claims 17 and 18 should follow the fate of claim 1.

In addition, as Appellant stated in the Appeal Brief, the undersigned has diligently studied the portion of Ren cited by the Examiner and is unable to find a disclosure of “an anode adjacent the fuel container”. In addition, the undersigned has diligently studied this portion of Ren and is unable to find a disclosure of “a pushing pin” (claims 4 and 17) or a “safety lock” (claim 17). As discussed for claim 1 above, the most reasonable conclusion is that the Examiner was in error when alleging that all of the limitations of claim 17 are taught in Ren.

Because the Examiner’s Answer is silent on Issue 8, it appears that the Examiner has conceded Issue 8. Accordingly, the Appellant respectfully requests that the Board find that claims 17 and 18 are allowable in view of the Examiner’s previous and unresolved U.S.C. § 102(e) rejections of claims 17 and 18.

Issue 9 — Obviousness Rejection of Claims 2 and 7 Under 35 U.S.C. § 103(a)

The Examiner’s Answer only obliquely addresses Issue 9 regarding the issue of optimization of ranges. On page 6 of the Examiner’s Answer, the Examiner continues viewing the limitations in dependent claims 2 and 7 exclusive of the limitations of their respective parent independent claims 1 and 6. The Examiner cites *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (MPEP § 2144.05(II)(A), “Optimization of Ranges”) in asserting that differences of temperature and concentration will not allow patentability over the prior art unless such differences are “critical”. See MPEP § 2144.05(II)(A), (III).

First of all, claim 2 depends on claim 1, while claim 7 depends on claim 6. Based on arguments *supra*, both claims 1 and 6 are allowable; therefore, claims 2 and 7 should also be allowable.

In addition, the Examiner rejected claims 2 and 7 because, supposedly, “the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made,” and cited MPEP § 2144.05(II).

The Appellant has not claimed that the second concentration being at least double the first concentration is somehow “optimal;” therefore, the citation of MPEP § 2144.05(II) is inappropriate. The Appellant has merely presented these limitations to avoid accidental anticipation by inapposite prior art.

The Examiner has been requested in the previous response to each of the Office Actions dated June 25, 2007 and December 14, 2007 to provide the basis for the Examiner's view that the limitations at issue represent optimization and to provide the basis for the Examiner's assertion of obviousness in view of Ren, both motivated by *In re Ahlert and Kruger*, 165 USPQ 418 (CCPA 1970). The Examiner has now offered in the Examiner's Answer a reference to Ren, (Column 10, lines 27-37), which essentially and merely states that different concentrations of methanol in water may be used for different fuel-cell applications. It is unclear to the Appellant how this revelation translates into an "optimal" second concentration. In any event, if the parent claims 1 and 6 are found allowable, then claims 2 and 7 are allowable and the issue over optimization of ranges is moot.

Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 103(a) rejection of claims 2 and 7 be reversed.

Issue 10 — Obviousness Rejection of Claims 3 and 8 Under 35 U.S.C. § 103(a)

The Examiner's Answer only obliquely addresses Issue 9 regarding the issue of optimization of ranges. On page 6 of the Examiner's Answer, the Examiner continues viewing the limitations in dependent claims 3 and 8 exclusive of the limitations of their respective parent claims 2 and 7. The Examiner cites *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (MPEP § 2144.05(II)(A), "Optimization of Ranges") in asserting that differences of temperature and concentration will not allow patentability over the prior art unless such differences are "critical". See MPEP § 2144.05(II)(A), (III).

First of all, claim 3 depends on claim 2, which depends on claim 1, while claim 8 depends on claim 7, which depends on claim 6. Based on arguments *supra*, both claims 1 and 6 are allowable; therefore, claims 3 and 8 should also be allowable.

In addition, the Examiner rejected claims 3 and 8 because, supposedly, "the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made," and cited MPEP § 2144.05(II).

The Appellant has not claimed that the second concentration being at least double the first concentration is somehow "optimal;" therefore, the citation of MPEP § 2144.05(II) is inappropriate. The Appellant has merely presented these limitations to avoid accidental anticipation by inapposite prior art.

The Examiner has been requested in the previous response to each of the Office Actions dated June 25, 2007 and December 14, 2007 to provide the basis for the Examiner's view that the limitations at issue represent optimization and to provide the basis for the Examiner's assertion of obviousness in view of Ren, both motivated by *In re Ahlert and Kruger*, 165 USPQ 418 (CCPA 1970). The Examiner has now offered in the Examiner's Answer a reference to Ren, (Column 10, lines 27-37), which essentially and merely states that different concentrations of methanol in water may be used for different fuel-cell applications. It is unclear to the Appellant how this revelation translates into an "optimal" second concentration. In any event, if the parent claims 1 and 6 are found allowable, then claims 2 and 7 are allowable and the issue over optimization of ranges is moot.

Accordingly, the Appellant respectfully requests that the Examiner's 35 U.S.C. § 103(a) rejection of claims 3 and 8 be reversed.

Issue 11 — Rejection of Claim 14 Under 35 U.S.C. § 102(e) and/or 35 U.S.C. § 103(a)

In the Office Action, page 7, independent claim 14 has been rejected under 35 U.S.C. § 102(e) as supposedly anticipated by Beckmann. Alternatively, the Examiner has rejected independent claim 14 under 35 U.S.C. § 103(a) as supposedly obvious in view of Beckmann.

The Examiner rejected claim 14 on the view that col. 2, lines 47-50 of Beckmann disclose "wherein the stirring occurs as a result of a human user moving the cell while it is in use."

Col. 2, lines 47-50 of Beckmann states:

"In water collector 18, water from entering cathodic effluent is collected and recirculated back to the pump or mixing chamber using either passive management, or a pump to induce said recirculation."

The undersigned has diligently studied this portion of Beckmann and is unable to find where it is disclosed that "the stirring occurs as a result of a human user moving the fuel cell while it is in use." Unfortunately, the Examiner failed to respond in any way to this very argument presented by the Appellant after each of the two previous Office Actions dated June 25, 2007 and December 14, 2007. The most reasonable conclusion is that the Examiner was in error when alleging that all of the limitations of claim 14 are taught in Beckmann.

In the Examiner's alternate rejection theory of obviousness, the Examiner stated, "the

claim is obvious because if a human moves the fuel cell while it is in use, inherently, stirring would occur during its movement.”

In addition, the Examiner failed to offer any basis for the Examiner’s view one skilled in the art would supposedly read the cited Beckmann passage and in turn infer that a human user should or could adequately stir the solution by way of in-use agitation by the human user. In the Examiner’s Answer, page 10, paragraph 2, the Examiner merely argues that “‘stirring occurs as a result of a human user moving the fuel cell while it is in use’ does not portend that ‘stirring’ is intentionally and wittingly produced, and thus, the ‘stirring’ may be a result of ordinary use of the device in which the fuel cell is enclosed.” The Examiner merely looks at the invention from the end-user point of view, and not from the inventor’s point of view where the fuel cell would be deliberately configured to take advantage of the agitation that could be expected from an end user’s use of the device. The Appellant respectfully asserts that the Examiner has failed to provide any evidence of said basis for the Examiner’s view one skilled in the art would supposedly read the cited Beckmann passage and in turn infer that a human user should or could adequately stir the solution by way of in-use agitation by the human user.

Moreover, the Appellant once again points out that the Examiner’s assertion of a 35 U.S.C. § 103(a) obviousness rejection seems misplaced; rather, the Examiner is really making another attempt to assert anticipation via inherency and accidental anticipation. If some amount of stirring within a fuel cell is “accidentally and unwittingly produced, whilst the [user was] in pursuit of other or different results, without exciting attention and without it even being known what was done or how it had been done, it would be absurd to say that this was an anticipation . . .”. See *Tilghman v. Proctor*, 102 U.S. 707, 712, 26 L.Ed. 279 (1880); see also *In re Seaborg*, 328 F.2d 996, 998-9 140 USPQ 662, 663-4 (CCPA 1964) (incidental, undetected, and inherent production of Americium in Fermi reactors did not anticipate the Seaborg patent for the generation of Americium). Inherency must not be a matter of possibility or probability. See *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). Conjecture or the possibility of making slight modifications to known technology would not do. Id. Instead, the subject matter asserted to be present via inherency must necessarily form part of the reference’s technical disclosure. Id. Inherency must be judged from the perspective of a person of ordinary skill in the art. Id.

In this case, the Examiner has not offered any reason as to why any accidental stirring by

a user of a fuel cell, where such fuel agitation is sporadic and unappreciated, should defeat novelty and/or be found obvious. “[C]hance hits in the dark will not anticipate an invention.”

See *United Chromium, Inc. v. International Silver Co.*, 60 F.2d 913, 917 (2d Cir. 1932).

Notably, the Examiner’s Answer is silent on this point, and thus, appears to have conceded this point.

Accordingly, for all of the reasons discussed above, the Appellant respectfully requests that the Examiner’s 35 U.S.C. § 102(e) rejection of claim 14 and the Examiner’s 35 U.S.C. § 103(a) rejection of claim 14 both be reversed.

Conclusion

Based on the arguments provided herein, the reversal of all claim rejections is requested.

Respectfully submitted,

/s/

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